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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: Stephen R. Lawrence, *et al.*

Examiner: Ella Colbert

Serial No: 09/113,751

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Filed: July 10, 1998

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For: META SEARCH ENGINE

Dated: March 6, 2003

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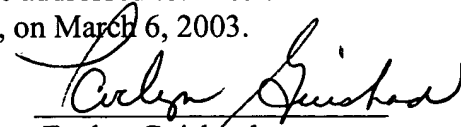
GROUP 3600

APPELLANT'S BRIEF ON APPEAL

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i. **INTRODUCTION**

Pursuant to the provisions of 35 U.S.C. §134 and 37 C.F.R. §§1.191, 1.192, the Appellant submits this Appellant's Brief on Appeal in perfection of the Appellant's appeal from the Final Rejection dated November 5, 2002, which finally rejected Claims 1, 3-16, 18-29, 46, 48-52, 54-47 and 80-90.

1. **REAL PARTY IN INTEREST**

The real party in interest in the above-identified patent application is NEC Laboratories America, Inc., the assignee of the entire rights, title and interest in the above-identified application.

2. **RELATED APPEALS AND INTERFERENCES**

There is a related appeal of U.S. Ser. No. 09/684,229, which is a divisional application of the above-identified application, i.e., U.S. Ser. No. 09/113,751.

3. **STATUS OF THE CLAIMS**

The above-identified application, U.S. Patent Application No. 09/113,751, was filed July 10, 1998 with Claims 1-78.

In response to a restriction requirement in an Official Action dated August 29, 2000, the Appellant provisionally elected to prosecute Claims 1-73.

In response to a further restriction requirement in an Official Action dated November 29, 2000, the Appellant provisionally elected to prosecute Claims 1-29 and 46-57.

In response to an Official Action dated April 12, 2001, the Appellant added a new Claim 79 via the Amendment pursuant to 37 C.F.R. §1.111, dated July 12, 2001.

A Final Rejection issued on August 13, 2001 ("FINAL REJECTION I"), with Claims 1-29, 46-57 and 79 finally rejected. In response to the Final Rejection, dated December 21, 2001, the Appellant cancelled Claims 2, 17, 47, 53 and 79, and proffered amendments to Claims 1, 3, 4, 12, 14-16, 19, 26, 28, 29 46, 49, 52, 55 via an Amendment pursuant to 37 C.F.R. §1.116, dated January 18, 2000. However, these amendments were not entered and an Advisory Action issued January 7, 2002.

The Appellant filed a Request Continued Examination ("RCE") pursuant to 37 C.F.R. §1.114, to have the §1.116 Amendment of December 21, 2001 entered into the above-identified application. The Amendment was entered and the finality withdrawn.

In response to an Official Action dated April 25, 2002, the Appellant canceled Claims Claim 74-48, amended Claims 8, 9, 84 and 85, and added a new Claim 90 via an Amendment dated July 25, 2002.

In response to a Final Rejection dated November 5, 2002 ("FINAL REJECTION II"), the Appellant filed a Notice of Appeal from the Primary Examiner to the Board of Patent Appeals and Interferences dated January 2, 2003.

Thus, the status of the claims is: Claims 1, 3-16, 18-29, 46, 48-52, 54-47 and 80-90 are currently pending; and Claims 1, 3-16, 18-29, 46, 48-52, 54-47 and 80-90 are the subject matter of the present appeal. The currently pending claims are set forth *infra* in the Appendix.

4. STATUS OF THE AMENDMENTS

The Appellant did not file a response to the FINAL REJECTION II.

5. SUMMARY OF THE INVENTION

The present invention, which is most broadly embodied by the independent Claims 1, 16, 46, 52 and 86-89 claims on appeal, is directed to a computer-implemented meta search engine method. In accordance with the meta search engine method, a query is forwarded to a third party engine or a number of third party search engines. The meta search engine method further provides for receiving and processing in parallel responses from the third party search engine or engines. The processing includes downloading the full text of the actual page identified by the third party search engine in response to the query and providing the context in which query terms appear in the page, by locating the query terms in the page and extracting text surrounding the query terms, as described in the specification as filed on page 4, lines 5-21. The context provides a much better indication of the relevance of identified page than the summaries or abstracts used by other search engines, and it often helps to avoid looking at a page only to find that it does not contain the required information. The context can be particularly helpful whenever a query includes terms, which may occur in a different context to that required.

The user specifies the amount of context in terms of the number of characters either side of the query terms. Most non-alphanumeric characters are filtered from the context in order to produce more readable and informative results. The method further progressively displays information about each identified page after the page is downloaded and analyzed to locate query terms and extract text surrounding the query terms, rather than after all the pages are downloaded. Typically information about an identified page is displayed faster than the average time for a third party search engine to respond. When multiple pages provide the information required, the meta search engine method is advantageous because pages from the fastest sites are the first ones to be analyzed and displayed.

The computer-implemented meta search engine method, among other steps, comprises the following core steps: forwarding a query to a third party engine or a plurality of third party search engines; receiving and processing in parallel responses from the third party search engine(s), said responses identifying documents in response to the query, said processing including the steps of, (a) downloading the full text of the documents identified in response to the query, and (b) locating query terms in the documents and extracting text surrounding the query terms to form at least one context string; and progressively displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms.

6. THE ISSUES ON APPEAL

In FINAL REJECTION II, Claims 1, 16, 4, 52 and 86-90 were rejected pursuant to 35 U.S.C. §103(a), as allegedly unpatentable over Redfern (U.S. Patent No. 6,078,914) in view of U.S. Department of Commerce, et al. (Text Search and Retrieval-Examiner Training Manual: For the Automated Patent System (APS), 4/96, 2/97) (hereinafter "APS"). Additionally, Claims 3-15, 18-29, 48-51, 54-57 and 80-85 were rejected to 35 U.S.C. §103(a), as allegedly unpatentable over the primary prior art reference to Redfern.

Henceforth, the issues presented for review are:

I. Whether the Redfern-APS combination fails to teach or suggest the computer-implemented meta search engine method comprising a step of progressively displaying information regarding the documents and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms, as recited in Claims 1, 16, 46, 52, so as to render these claims patentable over the combination pursuant to 35 U.S.C. §103(a).

II. Whether the Redfern-APS combination fails to teach or suggest the computer-implemented meta search engine method comprising a step of progressively displaying information regarding the documents and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms, as recited in independent Claims 1, 16, 46, 52 from which Claims 3-15, 18-29, 48-51, 54-57, 80-85 and 90 respectively depended, so as to render the latter claims patentable over the combination pursuant to 35 U.S.C. §103(a).

III. Whether the primary prior art reference to Redfern fails to teach or suggest the computer-implemented meta search engine method comprising a step of clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words and conjunctions thereof and displaying the information regarding the documents arranged by the clusters, as recited in Claim 86, so as to render the claim patentable over Redfern pursuant to 35 U.S.C. §103(a).

IV. Whether the primary prior art reference to Redfern fails to teach or suggest the computer-implemented meta search engine method comprising a step of displaying suggested additional query terms for expanding the query based on terms in the documents identified in response to the query, as recited in Claim 87, so as to render the claim patentable over Redfern pursuant to 35 U.S.C. §103(a).

V. Whether the primary prior art reference to Redfern fails to teach or suggest the computer-implemented meta search engine method comprising the steps of receiving a query and transforming the query from a form of a question into a form of an answer and forwarding the transformed query to a plurality of third party engines, as recited in Claim 88, so as to render the claim patentable over Redfern pursuant to 35 U.S.C. §103(a).

VI. Whether the primary prior art reference to Redfern fails to teach or suggest the computer-implemented meta search engine method comprising the step displaying an indication of how close the query terms are to each other in the documents, as recited in Claim 89, so as to render the claim patentable over Redfern pursuant to 35 U.S.C. §103(a).

7. GROUPING OF THE CLAIMS

The Claims 1, 3-16, 18-29, 46, 48-52, 54-57, 80-85 and 90, on appeal, all stand or fall together. Each of the Claims 86-89, on appeal, stands in its own.

8. ARGUMENTS FOR PATENTABILITY

- I. The Redfern-APS combination fails teach or suggest the step of progressively displaying information regarding the documents and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms, as recited in Claims 1, 16, 46 and 52.

The Court of Appeals for the Federal Circuit has held in In re Fritch 972 F.2d 1260, 1266 (Fed. Cir. 1992) with regard to 35 U.S.C. §103(a) obviousness rejections that, "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification" (emphasis added). The announced principle requires that the prior art suggest modifying the teachings of the references so as to produce the claimed invention. Id. At the time the invention is made, there must be reason apparent to a skilled artisan for applying the teachings of the reference or else the use of such teachings will be improper hindsight. In re Noyima, 184 USPQ 607 (C.C.P.A. 1975). Additionally, the Examiner cannot establish obviousness by locating references, which describe various aspects of an invention without also providing evidence of the motivating force, which would impel the skilled artisan to do what the applicant has done. Ex Parte Levengood, 28 USPQ 2d 1330, 1302 (Bd. Pt. App. & Int'f. 1993). Furthermore,

to establish a *prima facie* case of obviousness pursuant to 35 U.S.C. §103(a), there must be some suggestion or motivation in the references or in the knowledge generally available to one of ordinary skill in the art to modify the references or to combine their teachings.

The primary prior art reference to Redfern is directed to a natural language meta-search system and method. More specifically, Redfern teaches a meta search system that accepts natural language queries which are parsed to extract relevant content, this relevant content being formed into queries suitable for each of a selected number of search engines and being transmitted thereto. The results from the search engines are received and examined and a selected number of the information sources represented therein are obtained. The obtained information sources are then examined to rank their relevance to the extracted relevant content and the portions of interest in each of these ranked information sources are determined. The determined portions are output to the user in ranked order, having first been processed to clean up the portions to include valid formatting and complete paragraphs and/or sentences.

With reference to the rejections of Claims 1, 16, 46 and 52, Redefern is defective in that it fails to teach or suggest the step of progressively displaying information regarding the documents and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms, as recited in the appealed claims. More specifically, Redfern outputs to the user the relevant portions from information sources obtained based on the results from the selected number of search engines only after the selected number of information sources have all been obtained and ranked. It is clear that Redfern necessarily obtains all of the selected

number of information sources so that they can be ranked, in order for portions of the obtained information sources to be displayed to the user in ranked order. There is no teaching or suggestion in Redfern to progressively display a portion of each information source as the information source is obtained because this necessarily destroys the ranking feature of Redfern's meta-search system. In fact, Redefern teaches away from progressively displaying a portion of each information source as it is received because as mentioned above, Redfern obtains the selected number of information sources represented in the results from the search engines, in order to perform its ranking of the information sources and the determination of portions of interest in the information sources. The Examiner acknowledged that Redfern did not teach this patentably distinguishing feature in the FINAL REJECTION II (See FINAL REJECTION II, page 3).

The secondary prior art reference, APS, is a training manual for search and retrieval of text in an Automated Patent System. The section 5.1 (page 5-2) cited by the Examiner in the FINAL REJECTION II teaches displaying selected sections in a patent. More specifically regarding page 5-2, APS teaches that a KWIC (Key-Word-In-Context) display format displays a section of the patent document in which a search term occurs by displaying up to 20 words on either side of the search term.

With reference to the rejections of Claims 1, 16, 46 and 52, the secondary reference, APS, does not rectify the deficiency identified above in Redfern. Specifically, APS also fails to teach or suggest the step of progressively displaying information regarding the documents and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms, as recited in the

appealed claims. In APS, the KWIC display format highlights a number of terms on either side of the query term for the particular section of a patent to be displayed, e.g., the detailed description section, the claim section, etcetera. However, there is no teaching or suggestion to progressively display particular sections of more than one particular patent, as the search retrieves patents matching the particular query. In fact, APS teaches away from progressively displaying sections of patents, by displaying a section of one patent at one time. The Examiner did not address this patentably distinguishing feature with reference to the APS in the FINAL REJECTION II (See FINAL REJECTION II, page 3).

In addition, there is no suggestion or motivation to modify the cited references to so as to progressively display the terms surrounding the query terms for each processed document as it is received and processed. As argued above, both of the references in fact teach away from such modification in that Redfern processes all of the selected number of information sources before display (not progressive display) and APS displays a section of one patent at once (not progressive display).

II. The Redfern-APS combination fails teach or suggest the step of progressively displaying information regarding the documents and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms, as recited in Claims 1, 16, 46 and 52 from which Claims 3-15, 18-29, 48-51, 54-57, 80-85 and 90 respectively depended.

Dependent Claims 3-15, 18-29, 48-51, 54-57, 80-85 and 90 depend from independent Claims 1, 16, 46 and 52, and therefore, they are patentable over the Redfern-APS combination at least because the combination fails to teach or suggest the step of progressively displaying information regarding the documents and the at least one context

string surrounding one or more of the query terms for each processed document containing the query terms, as recited in the independent Claims 1, 16, 46 and 52.

III. Redfern fails to teach or suggest the computer-implemented meta search engine method comprising a step of clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words and conjunctions thereof and displaying the information regarding the documents arranged by the clusters, as recited in Claim 86.

The clustering recited in Claim 86 provides a significant aid to information discovery by identifying for the user what topics are found most often in all of the documents that are retrieved in response to the query. The clustering allows the user to further refine the query in order to investigate one of these topics. Redfern provides no teaching or suggestion of clustering the documents retrieved in response to the query. In contrast to the claimed clustering, Redfern merely parses and refines the natural language search query. All of the sections cited by the Examiner in connection with the rejection of Claim 86 are directed to simplifying the search query, not to clustering the documents retrieved in response to the query and for displaying information regarding the documents arranged by the clusters.

IV. Redfern fails to teach or suggest the step of displaying suggested additional query terms for expanding the query based on terms in the documents identified in response to the query, as recited in Claim 87.

Contrary to the recited subject matter in Claim 87, directed to displaying suggested additional query terms for expanding the query based on the terms in the documents identified in response to the query, Redfern revises and simplifies the query terms based on the terms themselves and not based on documents that are identified in

response to the query, which documents actually contain query terms. Redfern does not contemplate expanding the query based on the terms in the documents identified in response to the query.

V. Redfern fails to teach or suggest the step of receiving a query and transforming the query from a form of a question into a form of an answer and forwarding the transformed query to a plurality of third party engines, as recited in Claim 88.

The Examiner cited Redfern, Col. 15, lines 42-49 directed to a natural language query in a form of a question, namely, “where do monarch butterflies spend the winter?” In Col. 15, lines 50-64, Redfern demonstrates how to parse the terms of that query into the form “monarch + butterflies + spend + winter” for a particular search engine, i.e., Lycos. Additionally, Redfern demonstrates how to parse the terms of the natural language query for different search engines, e.g., AltaVista and Excite. Redfern parses the terms in the query and repeats the terms in the same order as they appear in the original natural language query, but in a format appropriate for the particular search engine. However, Redfern provides no teaching or suggestion to transform its natural language query in a form of a question into a form of an answer. To the contrary, Redfern transforms its natural language query into a format appropriate to the particular search engine, but Redfern’s format doesn’t contemplate transformation of the natural language query in the form of a question into a query in the form of an answer. In contrast to Redfern, the present specification on pages 23-26, describes an example of transforming the query in a form of a question “what does NASDAQ stand for?” into a query in a form of an answer “NASDAQ is an abbreviation”. As another example, the

present specification describes transforming the foregoing query in the form of a question into a query in the form of an answer "NASDAQ means".

VI. Redfern fails to teach or suggest the step of displaying an indication of how close the query terms are to each other in the documents, as recited in Claim 89.

Redfern teaches ranking of the information sources on the basis of which search engine provided the most relevant documents by establishing a scoring regime illustrated in appendix B (See Redfern Col. 10, line 64-Col 11, line 47; Col, 18, lines 20-35). Contrary to the recited subject matter in Claim 89, directed to displaying an indication of how close the query terms are to each other in the documents, Redfern's scoring regime does not contemplate ranking its information sources on the basis of how close the query terms are to one another and further does not teach or suggest displaying an indication of how close the query terms are in the information sources.

9. CONCLUSION

In sum, the Redfern-APS combination does not teach or suggest the computer-implemented meta search engine method comprising a step of progressively displaying information regarding the documents and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms, as recited in the independent Claims 1, 16, 46, 52, as well as Claims 3-15, 18-29, 48-51, 54-57, 80-85 and 90 respectively dependent from the former claims. Redfern necessarily obtains all of the selected number of information sources so that they

can be ranked, in order for portions of the obtained information sources to be displayed to the user in ranked order (no progressive display). The KWIC display format in APS displays a section of one patent at one time (no progressive display). Consequently, the references do not provide any teaching or suggestion of the recited progressive display step, and further there is no motivation to modify the references to teach the progressive display.

In addition, the primary prior art reference to Redfern does not teach or suggest clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words and conjunctions thereof and displaying the information regarding the documents arranged by the clusters, as recited in the independent Claim 86. Redfern merely teaches parsing and refining of the natural language search query, but there is no teaching or suggestion of clustering the documents retrieved in response to the query and for displaying information regarding the documents arranged by the clusters.

Furthermore, the primary prior art reference to Redfern does not teach or suggest displaying suggested additional query terms for expanding the query based on the terms in the documents identified in response to the query, as recited in the independent Claim 87. To the contrary, Redfern merely revises and simplifies the query terms based on the terms themselves and not based on documents that are identified in response to the query, which documents actually contain query terms.

Still further the primary prior art reference to Redfern does not teach or suggest receiving a query and transforming the query from a form of a question into a form of an answer and forwarding the transformed query to a plurality of third party

engines, as recited in Claim 88. To the contrary, Redfern teaches how to parse the terms of a natural language query into a format appropriate for a particular search engine, but Redefern's terms remain in the same order and the format does not contemplate transformation of the natural language query in the form of a question into a query in the form of an answer.

Lastly, the primary prior art reference to Redfern does not teach or suggest displaying an indication of how close the query terms are to each other in the documents, as recited in Claim 89. Redfern teaches ranking of the information sources on the basis of which search engine provided the most relevant documents by establishing a scoring regime. However, the Redfern's scoring regime scoring regime does not contemplate ranking its information sources on the basis of how close the query terms are to one another and further does not teach or suggest displaying an indication of how close the query terms are in the information sources.

In view of the foregoing arguments set forth *supra*, neither Redfern nor the Redfern-APS combination of references applied against the claims on appeal renders these claims unpatentable pursuant to 35 U.S.C. §103(a). Consequently, rejections of these claims pursuant to 35 U.S.C. §103(a) are in error and must be reversed.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'P. J. Esatto, Jr.', written in a cursive style.

Paul J. Esatto, Jr.
Registration No. 30,749

Scully, Scott, Murphy & Presser
400 Garden City Plaza
Garden City, New York 11530
(516) 742-4343
AGV:eg

APPENDIX

THE CLAIMS ON APPEAL: 1, 3-16, 18-29, 46, 48-52, 54-47 and 80-90

U.S. Patent Application Serial No. 09/113,751

1. A computer-implemented meta search engine method, comprising the steps of:

forwarding a query to a plurality of third party search engines;
receiving and processing in parallel responses from the third party search engines, said responses identifying documents in response to the query, said processing including the steps of,

(a) downloading the full text of the documents identified in response to the query, and

(b) locating query terms in the documents and extracting text surrounding the query terms to form at least one context string; and
progressively displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms.

3. A method according to Claim 1, further including the step of filtering the context strings in order to improve readability by removing redundant whitespace, repeated characters, HTML comments and tags, and special characters.

4. A method according to Claim 1, further including the step of identifying and displaying a list of documents identified in response to the query which do not contain any of the query terms.

5. A method according to Claim 1, further including the step of clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words, and conjunctions thereof.

6. A method according to Claim 1, further including the steps of storing the documents matching a query so that a query can be repeated and only showing documents which are new or have been modified since the last query or a given time.

7. A method according to Claim 1, further including the step of filtering the actual documents when viewed in full in order to (a) highlight the query terms, and (b) insert quick jump links so the user can quickly jump to the query term of interest.

8. A method according to Claim 90, wherein the steps of creating and using a database of meta-information regarding query terms, includes storing a list of movie titles, recognizing when the user enters a query containing a movie title, and taking a special action such as referring the user to the review of the movie at a specific movie review site.

9. A method according to Claim 1, further including the step of storing and using information regarding the particular documents requested by a user in response to a query by remembering the most commonly requested document for a given query and presenting this document first in response to the same query in the future.

10. A method according to Claim 1, further including the steps of analyzing the number of documents which have been found as a function of the number of third party search engines queried, and computing the estimated size of the third party search engines and the estimated size of the document base which the third party search engines index.

11. A method according to Claim 1, further including the step of scheduling regular searches, whereby the user is informed of either new or modified documents since the previous search.

12. A method according to Claim 1, further including the step of detecting and displaying duplicate documents by identifying duplicate context strings.

13. A method according to Claim 1, further including the step of caching the full documents in order to improve access speed.

14. A method according to Claim 1, further including the step of displaying suggested additional query terms for expanding the query based on terms in the documents identified in response to the query.

15. A method according to Claim 1, after all responses have been processed, further including the step of using a ranking scheme to re-rank documents according to the number of and proximity between query terms, and re-displaying the information regarding the documents according to the ranking.

16. A computer-implemented meta search engine method, comprising the steps of:

forwarding a query to a third party search engine;

receiving and processing in parallel responses from the third party search engine, said responses identifying documents in response to the query, said processing including the steps of,

(a) downloading the full text of the documents identified in response to the query, and

(b) locating query terms in the documents and extracting text surrounding the query terms to form at least one context string; and progressively displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms.

18. A method according to Claim 16, further including the step of filtering the context strings in order to improve readability by removing redundant whitespace, repeated characters, HTML comments and tags, and special characters.

19. A method according to Claim 16, further including the step of identifying and displaying a list of documents identified in response to the query which do not contain any of the query terms.

20. A method according to Claim 16, further including the step of clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words, and conjunctions thereof.

21. A method according to Claim 16, further including the steps of storing the documents matching a query so that a query can be repeated and only showing documents which are new or have been modified since the last query or a given time.

22. A method according to Claim 16, further including the step of filtering the actual documents when viewed in full in order to (a) highlight the query terms, and (b) insert quick jump links so the user can quickly jump to the query term of interest.

23. A method according to Claim 16, further including the steps of creating and using a database of meta-information regarding query terms, e.g. storing a list of movie titles, recognizing when the user enters a query containing a movie title, and taking a special action such as referring the user to the review of the movie at a specific movie review site.

24. A method according to Claim 16, further including the step of storing and using information regarding the particular documents requested by a user in response to a query, e.g. remembering the most commonly requested document for a given query and presenting this document first in response to the same query in the future.

25. A method according to Claim 16, further including the step of scheduling regular searches, whereby the user is informed of either new or modified documents since the previous search.

26. A method according to Claim 16, further including the step of detecting and displaying duplicate documents by identifying duplicate context strings.

27. A method according to Claim 16, further including the step of caching the full documents in order to improve access speed.

28. A method according to Claim 16, further including the step of displaying suggested additional query terms for expanding the query based on terms in the documents identified in response to the query.

29. A method according to Claim 16, after all responses have been processed, further including the step of using a ranking scheme to re-rank documents according to the

number of and proximity between query terms, and re-displaying the information regarding the documents according to the ranking.

46. A computer-implemented meta search engine method, comprising the steps of:

means for forwarding a query to a third party search engine;

means for receiving and processing in parallel responses from the third party search engine, said responses identifying documents in response to the query, said processing including the steps of,

(a) means for downloading the full text of the documents identified in response to the query, and

(b) means for locating query terms in the documents and extracting text surrounding the query terms to form at least one context string; and

means for progressively displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms.

48. A meta search engine according to Claim 46, further including means for the filtering of the context strings in order to improve readability by removing redundant whitespace, repeated characters, HTML comments and tags, and special characters.

49. A meta search engine according to Claim 46, further including the step of identifying and displaying a list of documents identified in response to the query which do not contain any of the query terms.

50. A meta search engine according to Claim 46, further including a mechanism for clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words, and conjunctions thereof.

51. A meta search engine according to Claim 46, further including a mechanism for storing the documents matching a query so that a query can be repeated and for only showing documents which are new or have been modified since the last query or a given date.

52. A computer-implemented meta search engine method, comprising the steps of:

means for forwarding a query to a third party search engine;

means for receiving and processing in parallel responses from the third party search engine, said responses identifying documents in response to the query, said processing including the steps of,

(a) means for downloading the full text of the documents identified in response to the query, and

(b) means for locating query terms in the documents and extracting text surrounding the query terms to form at least one context string; and

means for progressively displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms.

54. A meta search engine according to Claim 52, further including means for the filtering of the context strings in order to improve readability by removing redundant whitespace, repeated characters, HTML comments and tags, and special characters.

55. A meta search engine according to Claim 52, further including the step of identifying and displaying a list of documents identified in response to the query which do not contain any of the query terms.

56. A meta search engine according to Claim 52, further including a mechanism for clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words, and conjunctions thereof.

57. A meta search engine according to Claim 52, further including a mechanism for storing the documents matching a query so that a query can be repeated and for only showing documents which are new or have been modified since the last query or a given date.

80. The method of Claim 1, further including the step of transforming the query from a form of a question into a form of an answer prior to forwarding the query to the plurality of third party search engines.

81. The method of Claim 1, wherein the step of progressively displaying includes displaying an indication of how close the query terms are to each other in the documents.

82. The method of Claim 1, after the progressively displaying step, further including the steps:

- (a) displaying the information regarding the documents and the at least one context string for a predetermined number of documents ranked using term proximity information;

- (b) displaying the information regarding the documents and the at least one context string for documents that which contain less than all the query terms;

- (c) displaying the information regarding the documents that contain none of the query terms;

- (d) displaying information regarding the documents and the at least one context string for documents that contain duplicate context strings to documents displayed earlier; and

- (e) displaying the information regarding the documents that could not be downloaded.

83. The method of Claim 82, further including the step displaying suggested additional query terms for expanding the query based on terms in the documents identified in response to the query.

84. The method of Claim 82, further including the step of displaying summary information regarding the documents found and processed, the summary information being separately identified for each search engine.

85. The method of Claim 5, wherein the step of clustering comprises for each processed document the steps of:

(a) for $n = 1$ to MaximumPhraseLength, for each set of successive n words, if this combination of words has not already appeared in this document, then add the set to a hash table for this document and a hash table for all documents;

(b) for $n = \text{MaximumPhraseLength}$ to 1, find the most common phrases of length n , to a maximum of MaxN phrases, which occurred more than MinN times, and add these phrases to the set of clusters;

(c) find the most common combination of two clusters from the previous step, to a maximum of maxC combinations, for which the combination occurred in individual documents at least MinC times;

(d) delete clusters which are identified by phrases which are subset of a phrase identifying another cluster;

(e) merge clusters which contain identical documents; and

(f) display each cluster along with at least one context string from a set of documents for both the query terms and the cluster terms.

86. A computer-implemented meta search engine method, comprising the steps of:

forwarding a query to a plurality of third party search engines;

receiving and processing responses from the third party search engines, said responses identifying documents in response to the query, said processing including the steps of,

(a) downloading the full text of the documents identified in response to the query, and

(b) locating query terms in the documents and extracting text surrounding the query terms to form at least one context string;

displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms; and

clustering the documents based on analysis of the full text of each document and identification of co-occurring phrases and words, and conjunctions thereof and displaying the information regarding the documents arranged by said clusters.

87. A computer-implemented meta search engine method, comprising the steps of:

forwarding a query to a plurality of third party search engines;

receiving and processing responses from the third party search engines, said responses identifying documents in response to the query, said processing including the steps of,

(a) downloading the full text of the documents identified in response to the query, and

(b) locating query terms in the documents and extracting text surrounding the query terms to form at least one context string;

displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms; and

displaying suggested additional query terms for expanding the query based on terms in the documents identified in response to the query.

88. A computer-implemented meta search engine method, comprising the steps of:

receiving a query and transforming the query from a form of a question into a form of an answer;

forwarding the transformed query to a plurality of third party search engines;

receiving and processing responses from the third party search engines, said responses identifying documents in response to the query, said processing including the steps of,

(a) downloading the full text of the documents identified in response to the query, and

(b) locating query terms in the documents and extracting text surrounding the query terms to form at least one context string; and

displaying information regarding the documents, and the at least one context string surrounding one or more of the query terms for each processed document containing the query terms.

89. A computer-implemented meta search engine method, comprising the steps of:

forwarding a query to a plurality of third party search engines;

receiving and processing responses from the third party search engines, said responses identifying documents in response to the query, said processing including the steps of,

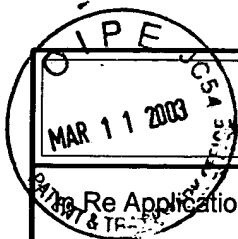
(a) downloading the full text of the documents identified in response to the query, and

(b) locating query terms in the documents and extracting text surrounding the query terms to form at least one context string;

displaying information regarding the documents, including the at least one context string surrounding one or more of the query terms for each processed document containing the query terms; and

displaying an indication of how close the query terms are to each other in the documents.

90. The method according to claim 1, further including the steps of creating a database of meta search information regarding query terms and using the database to display information relating to the query terms when a user uses those terms in a query.



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TRANSMITTAL OF APPEAL BRIEF (Large Entity)

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Re Application Of: Stephen R. Lawrence, et al

Serial No.
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Examiner
E. Colbert

Group Art Unit
3624

Invention:

META SEARCH ENGINE

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MAR 13 2003

GROUP 3600

TO THE ASSISTANT COMMISSIONER FOR PATENTS:

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed on

The fee for filing this Appeal Brief is: \$320.00

- ☐ A check in the amount of the fee is enclosed.
- ☐ The Commissioner has already been authorized to charge fees in this application to a Deposit Account. A duplicate copy of this sheet is enclosed.
- ☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 19-1013 SSMP
A duplicate copy of this sheet is enclosed.

Signature

Dated: March 6, 2003

Paul J. Esatto, Jr.
Registration No. 30,749
Scully, Scott, Murphy & Presser
400 Garden City Plaza
Garden City, New York 11530

I certify that this document and fee is being deposited on Mar. 6, 2003 with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

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Evelyn Guishard

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